

A large species, characterized by the widening of the wings in the male and by the long *ovipositor* in the female, by the tubercle on face reaching the antennæ covered with the thick moustache, black above with some white hairs below. *Legs* are black, the tibiæ dull reddish or reddish yellow at their base, femora and tibiæ with long fine chiefly whitish hairs. *Scutellum* with white hairs and black bristles.

Loew gives 14–18 mm.

These measure, ♂ 18–22, ♀ 21 mm.

LX.—*Papers on Oriental Carabidæ*.—IV.

By H. E. ANDREWES.

DRIMOSTOMINI.

Genus COSMODISCUS, Sl.

This genus was described by Mr. T. G. Sloane in 1907 (Proc. Linn. Soc. N.S.W. xxxii. p. 371) for a unique specimen, *C. rubripictus*, Sl., taken by Mr. Dodd at Kuranda, Queensland. Mr. Sloane kindly sent me a second example of the genus from the Kei Is., which he thought was probably a small form of his own species: I quite concur, as, apart from its smaller size and the fact that the ferruginous pattern on the elytra is reduced, it agrees with the description.

In 1873 (Trans. Ent. Soc. Lond. p. 283) Bates described *Cælostomus* (*Stomonaxus*) *platynotus* for a single ♀ ex. taken by Mr. Geo. Lewis at Nagasaki, in Japan: he was struck at the time by the unusual form of this insect, but left it in the genus *Stomonaxus*. Mr. H. Stevens has lately sent me five examples of this species from Gopaldhara, British Sikkim, which I have compared with Bates's type; the localities are comparatively remote from each other, and I anticipate the discovery of further specimens in the intervening Southern Provinces of China. Two out of the five specimens are of the same size as the Japanese insect, but the other three, which I cannot separate from them, are a good deal smaller.

Yet another species, with testaceous markings, as in the genotype, has been found in different parts of Central India by Dr. Annandale and Mr. E. A. D'Abreu. Before describing this and giving a few further notes on Bates's species, I think it desirable to reproduce Mr. Sloane's description of the genus, with such modifications as are necessitated by the

inclusion of the two additional species. I also give a table differentiating the species.

Ligula short, wide, truncate at apex, bisetose : *paraglossæ* very narrow, adnate to near apex of ligula and projecting only a little beyond it. *Mentum* moderately excised, sinus oblique at sides, with a short wide triangular tooth : epilobes rather pointed at apex and extending a little in advance of lobes. *Palpi* stout : *labial* with penultimate joint bisetose ; apical joint short, hardly longer than penultimate, compressed, truncate : *maxillary* with apical joint short, hardly longer than penultimate, obtuse at apex. *Labrum* shagreened, truncate, sex-setose. *Mandibles* short, without seta in scrobe, pointed at apex, serrate along lower half of internal margin, right one with a small median tooth. *Clypeus* bisetose. *Head* small ; front deeply and shortly bi-impressed ; *eyes* hemispherical, narrowly separated from buccal fissure beneath. *Antennæ* short, moniliform, lightly incrassate ; joints 1-3 glabrous, 6-11 compressed, first large, about as long as second and third together, second shortest. *Prothorax* widely transverse, considerably wider at base than apex ; basal angles obtuse ; margins more or less bordered ; two marginal setæ on each side, anterior just before middle, posterior at basal angle. *Elytra* with bordered base ; apex sinuate and with margin interrupted on each side by an internal plica ; no scutellary striole, interval 3 impunctate. *Prosternum* smooth ; intercoxal process more or less bordered. *Metepisterna* much longer than wide, punctate. *Ventral surface* more or less punctate along sides. *Legs* short : anterior tibiæ with wide apex, rounded and spinose externally : tarsi short, glabrous on upper surface, joint 5 glabrous beneath, claws simple : anterior tarsi (♂) with joints 1-3 moderately dilated and biserially squamose beneath, 1-2 triangular, 3 rather more quadrate, 1 shorter than 2+3, 4 very small : anterior tarsi (♀) with joint 1=2+3+4, first two joints with apex produced internally into a spiniform process : posterior tarsi slender, joint 1=2+3+4 : posterior trochanters with a setiferous pore near base.

The genus is allied to *Calostomus* (*Stomonaxus*), but the antennæ are more slender, the thorax wider, nearly as wide as elytra, flatter, hardly contracted behind, median line and basal sulci much fainter, border less reflexed, elytra flatter, hardly contracted towards base, striæ impunctate.

Table of Species.

- 1 (4). Prothorax with front and side margins bordered throughout, basal margin unbordered, surface smooth.

- 2 (3). Black, unicolorous; shoulders of elytra dentate *platynotus*, Bates.
 3 (2). Black, with ferruginous pattern on elytra; shoulders of elytra not dentate *rubropictus*, Sloane.
 4 (1). Prothorax bordered throughout, except over middle third of front margin, and between the basal sulci; surface punctate at sides of base, elytra black, with testaceous pattern, shoulders not dentate *picturatus* n.

Cosmodiscus platynotus, Bates.

Length 6–8 mm.

Prothorax much more narrowed in front than the description indicates. There is a border along both front and side margins, but none along basal margin. As in the other species the surface is a little flattened out near hind angles. There are a few punctures in the basal foveæ, and the marginal channel at sides is also irregularly punctate, but the surface is otherwise quite smooth. The elytra are very short, hardly wider than the prothorax; the basal border is produced at the shoulder and forms a small but distinct tooth. On the underside, the prothoracic epipleuræ are very wide, and the intercoxal process is unbordered or bordered at extremity only; the mesepisterna, sides of metasternum, metepisterna, and sides of ventral surface are all coarsely punctate.

Cosmodiscus picturatus, sp. n.

Length 6·0–6·5 mm.; width 2·60–2·75 mm.

Black, shiny; border of prothorax and elytra, under surface of head, sterna, apex of ventral surface, tibiæ, tarsi, and joints 1–3 of antennæ ferruginous; rest of legs and an elytral pattern testaceous. The elytral pattern consists of: (1) a slightly oblique streak on the shoulder, covering approximately intervals 5–8 at base, and terminating on interval 6 about halfway towards apex; (2) a horseshoe-shaped mark, commencing at three-fifths from base and convex towards apex, interrupted on sutural intervals, the front part on intervals 4–5, the hind part on 2–3, the colour on these last extending a little towards apex; (3) a short oblique streak, close to apex, on intervals 7–8. (In the type and Oxford specimens the elytral pattern is light in colour and well developed; in all the others the markings, which are rather darker, are more or less evanescent, disappearing in some examples on the shoulder and in others near the apex.)

Head (about 1·30 mm. wide) convex, smooth, shiny,

with deep, short, divergent frontal foveæ. Prothorax transverse (about 2.0 mm. wide), shiny, moderately and uniformly convex, except that the sides are rather flattened, especially near hind angles; base slightly bisinuate at sides, wider than apex, front margin truncate, angles rounded, inconspicuous; sides moderately rounded, hind angles obtuse but not much rounded, all margins bordered, except that the border is obsolete over the middle third of front margin and between the basal sulci; median line faint, basal sulci narrow but well marked, punctate, as is the flattened area at sides.

Elytra ovate, shiny, about half as long again as wide, shoulders rounded (but the basal border is bent a little forward towards them), moderately striate, intervals nearly flat, a little more convex towards apex. Prosternal process bordered in front, but not at extremity; mesepisterna and metasternum smooth.

The species is a little more elongate than the genotype, the thoracic border interrupted in front, but extending over the sides of the base, basal sulci wider and deeper, sides punctate near hind angles, shoulders of elytra less rounded, intervals flatter, testaceous pattern evidently differing.

Central Provinces: Nagpur, 1000', 27. viii. 1917, "at light," 1 ex. (type) (*E. A. D'Abreu*). Orissa: Lake Chilka, Barkuda and Gopkuda Is., 7 ex., some "at light" (*Chilka Survey* and *N. Annandale*)—Indian Museum. "India," 1 ex.—Hope Dept., Oxford Univ. Museum.

Mr. D'Abreu has kindly allowed me to retain the type-specimen in my collection.

NEBRIINI.

Leistus championi, sp. n.

Length 8.75 mm; width 3.0 mm.

Piceous: margin of prothorax, mouth-parts, tibiæ, tarsi, and antennæ (joint 1 darker) testaceous-red.

Head wide (1.60 mm), elongate, smooth behind, a few fine punctures on vertex, rugose and punctate at sides; labrum porrect, only half as wide again as long, mandibles long, smooth, of same width (in front of lateral projections) to near apex, antennæ and palpi very long and slender; tooth of mentum bifid, each point and the acute apices of the lobes with a strong seta; setiferous appendages at sides of maxillary stipes long and more or less cylindrical, that on the squama palpigera very long, with two setæ, one terminal, the other a little below it, both directed inwards; at base of

mentum 4 setæ arising from small tubercles, process at base of submentum sex-setose.

Prothorax convex, just wider than head, widest a little before middle, equally contracted at extremities, base truncate, apex slightly emarginate; sides moderately explanate, strongly rounded in front, sinuate some little way before base, with which they form approximately a right angle, front angles quite rounded adjoining neck, a small flat tubercle on each side on the explanate margin, midway between base and apex, but no seta is visible either there (though there is an evident pore and the seta is probably abraded) or at hind angles; median line evident, but not deep, transverse impressions and basal foveæ deep, margins lightly and sparsely, base and apical area strongly punctate, the puncturation extending for some distance from both ends along the median line, disk very minutely and sparsely punctate.

Elytra (5.0 mm. long) ovate, convex, almost parallel, border very slightly sinuate both behind shoulders, which though rounded are well marked, and before apex; strongly punctate-striate, both striæ and punctures only a little less deeply impressed towards apex, intervals moderately convex, 3 with five punctures, marginal series on 9 consisting of some half-dozen punctures only. Sterna (except middle of metasternum), episterna, and sides of ventral surface at base coarsely and more or less confluent punctate; anal segment with two setiferous pores on each side.

The species differs from *L. indus*, Tschitch., the only other species described from India, in its pitch-black colour, without blue or green reflections; form more elongate, head, labrum, and mandibles all longer; prothorax narrower, contracted more abruptly behind, and sinuate at a greater distance from hind angles, surface more strongly punctate; striæ of elytra more coarsely punctate, the outer ones not obliterated towards apex, interval 3 with five punctures instead of three. The species appears to be allied to *L. gracilentus*, Tschitch.

United Provinces: W. Almora Division, Upper Gaulti Valley, April 1919, 1 ex., ♀ (*H. G. Champion*). The type has been presented by Mr. Champion to the British Museum.

LOROCERINI.

Lorocera stevensi, sp. n.

Length 8.0 mm; width 2.50 mm.

Black with a faint greenish tinge; mouth-parts, joints 2-11 of antennæ, and tarsi reddish; tibiæ and front and mid-trochanters dark red; joint 1 of antennæ piccous.

Ann. & Mag. N. Hist. Ser. 9. Vol. v. 31

Head rather wide (about 1.5 mm.), impressions between eyes deep and confluent behind, with a few fine oblique striæ on sides of front, smooth behind. Antennæ long, reaching very nearly to middle of elytra; joint 1 long and thick, tapering at both ends, obliquely truncate at extremity, a single bristle on inner side at widest point, joints 2-4 tuberculate, a strong bristle arising from each tubercle, joints 5-7 with some bristles at apex; joint 2=5, 4 a little longer, 3 twice as long as 2, the remainder a little longer than 3.

Prothorax (about 2.0 mm. wide) convex, widest at middle, slightly emarginate at extremities, a little more contracted behind than in front; sides regularly rounded, with reflexed margin, front angles rounded, hind angles obtuse but not much rounded; median line and hind transverse impression well marked, the front one and the little pit on sides of disk in front only faintly indicated; surface smooth, base punctate.

Elytra elongate-oval, very nearly twice as long as wide, shoulders very oblique, moderately striate, the striæ finely but not very conspicuously punctate, intervals slightly convex; three large punctures on interval 4, at a fourth, a half, and three-fourths from base, two similar punctures on interval 7 at a third and two-thirds from base. Episterna of meso- and metasternum, and sides of the latter, also sides of the ventral surface at base coarsely but not very closely punctate; proepisterna punctate at base and apex.

About the same size as *L. pilicornis*, F., but nearly black, tibiæ and tarsi darker, antennæ lighter. Antennæ much thicker and with longer bristles, first joint larger and longer; prothorax with the little pits near front angles much less evident; elytra with more sloping shoulders, less evidently punctured striæ, and with two large punctures on interval 7; proepisterna punctate in front. The position of the punctures on intervals 4 and 7 is almost exactly as in *L. 10-punctata* Eschsch.

British Sikkim: Tonglu, 10,000', 7 ex., ♂ ♀ (*H. Stevens*). Mr. Stevens has kindly allowed me to retain the type in my collection.

Lorocera aparupa, sp. n.

Length 9.0 mm.; width 3.0 mm.

As the above description applies in great measure to this species also, I give below the points in which it differs.

Size larger and form rather wider. Black without greenish tinge. Head with much smaller and shallower frontal foveæ. Prothorax more transverse, hind angles a little rounded, the

pits on sides of disk in front practically obsolete, base more closely punctate. Elytra less elongate, shoulders rather less cut away, intervals more convex, the front punctures on interval 7 wanting (but in the ♂ specimen it is present on the right elytron). Front of proepisterna impunctate.

United Provinces: W. Almora Division, Sunderdhunga Valley, 8000'-12,000', June 1919, 2 ex., ♂ ♀ (*H. G. Champion*). The type (♂) has been presented by Mr. Champion to the British Museum.

SCARITINI.

ZELMA, gen. nov.

Ligula very small, narrow, (apparently) glabrous, concealed behind the supports of the labial palpi: *paraglossæ* not visible. *Maxillæ* short, apex slender and glabrous, hooked, inner margin densely ciliate. *Palpi* very short and, when *in situ*, more or less concealed: *maxillaries* glabrous, apical joint three times as long as penultimate, tapering almost from base to extremity: *labials* with last joint a little longer than penultimate, inflated at base and tapering sharply to apex, which is finely truncate, penultimate with two setæ on inner margin near base. *Mentum* finely rugose, a little wider than long, moderately excised in front, base of excision straight, (apparently) without tooth, epilobes very wide, the ridge separating them from the lobes extending to base of mentum, two large pores near base of central part, which (viewed from below) is depressed; lobes pointed, more or less bordered, slightly rounded at sides, apex very obliquely truncate, surface pitted. *Mandibles* (apparently) without seta in scrobe, short, slightly curved, sharply pointed, with a rough inner edge. *Labrum* very short, front margin arcuate, sex-setose, but with some additional setæ at sides. *Antennæ* arising beneath a frontal plate, just before the eyes, moniliform, not quite reaching base of prothorax, joint 1 robust, a little longer than (each of) 2, 3, 4, and 11, which are about equal, remainder about two-thirds as long, pubescent from joint 2 (inclusive), more densely so after first third of joint 4. *Head* flat, semicircular, widest at base, which is emarginate in the middle to receive a projection of the prothorax, margin uneven, more or less serrate, bisinuate at sides, with deep frontal depressions, clypeal suture invisible; eyes invisible from above, coarsely faceted, sunk in sides of head, between them and buccal fissure (which is represented by a fine groove up to the insertion of antennæ) intervene first a deep groove, for the

reception of the first four joints of the antennæ, and then a pitted space of about equal width, corresponding with the paragenæ. *Prothorax* strongly transverse, quadrate, pedunculate, central part longitudinally raised, projecting in front into an indentation of head, with base emarginate and bituberculate above peduncle: sides explanate and hollowed out, three or four large, transverse, shallow pits arranged longitudinally along them, bounded inwardly by a fine ridge: scutellum very small, situated on the peduncle. *Elytra* tricarinate, base truncate, emarginate in middle, with small projections on each side of the emargination, resulting from extensions of the first carina, shoulders sharply rectangular, apex slightly truncate, the sutural angles just showing as a faint projection: outer carina forming the apparent margin, the real margin, inflexed, and invisible from above, separated from it by a shallow channel. *Underside* deeply pitted: epipleuræ of prosternum wide in front, narrowed behind, undulating in correspondence with the transverse pits on upper surface: intercoxal process bordered, narrowed between coxæ, and widened out horizontally behind, the border continued obliquely forward in front across the prosternum, which is finely carinate down the central line: a deep bordered channel between epipleuræ and prosternum for reception of antennæ, episterna shagreened and forming (as seen from beneath) the base of the antennal channel in front, but visible behind, where the channel widens out: mesepimera (apparently) reaching coxal cavities: metasternum channelled, the episterna long, narrow, and channelled behind: margins of ventral segments curving backwards at sides, penultimate and antepenultimate segments each with a deep, pitted transverse sulcus, apical segment with a setiferous pore at margin on each side. *Legs* short: front femora dilated, channelled beneath, tibiæ with two inconspicuous teeth below terminal one, tarsi minute, joint 1 as long as the rest together: mid-femora channelled beneath, with a tooth near base, tibiæ slender, finely spinose, without trace of spur: hind coxæ just meeting; claws minute. There are fully developed wings beneath the elytra.

The usual setæ to be seen on various parts of the body in the Carabidæ are almost entirely wanting, with the exception of those on the labrum, last segment of ventral surface, and legs, but the cleansing of the specimens must to some extent be responsible for this, and fresh material is required for examination.

The remarkable feature in this new genus is the presence of antennal grooves on the underside, not only of the head,

but also of the prothorax. In the *Cryptomorphinæ* there is a groove on the underside of the head for the reception of the antennæ, and in *Scarites* there is a shallow groove for the scape only. I know of no other instance in the Carabidæ of such a groove on the prothorax as well as the head. *Zelma* is evidently related to *Solenogenys*, described by Westwood in 1859 (Trans. Ent. Soc. Lond. p. 170) for *S. fædæ*, a species taken by Bates on the Amazon. Apart from its larger size, this bears a strong superficial resemblance to *Z. miranda*, though in many of its characters it is strikingly different. In *Solenogenys* both the eyes and the margins of the elytra are visible from above, the antennal groove is confined to the underside of the head, and does not extend to the prothorax; joint 3 of the antennæ is much longer than 2 and 4, and the pubescence begins at joint 3; the mentum is toothed, the apical joints of the palpi are less inflated, the median part of the head is produced into a lobe beneath, the sides into two elongate processes, bounding the antennal channels; the under surface is not pitted, and the ventral segments are not transversely channelled.

With regard to the position of the two genera, I think that the (apparent) absence of a seta in the mandibular scrobe, the fossorial front tarsi, the pedunculate prothorax, and the insertion of the antennæ under frontal projections all point to their inclusion among the Scaritini. Putzeys, in his "Révision Générale des Clivinides" (Ann. Soc. Ent. Belg. x. 1867), includes the genus *Solenogenys*, but does not comment on its unusual characters. It is clear to me that neither genus will fit either into the *Scarites*-group or the *Clivina*-group, and I see nothing for it but to form a new *Solenogenys*-group. Whether this can be framed to include *Zelma* must remain an open question until further material is available for study.

Zelma miranda, sp. n.

Length 4.0 mm. ; width 1.0 mm.

Upperside grey: underside dark pitchy-red, legs a little lighter. Upper surface covered with a minute, sparse, and almost invisible pubescence.

Head (1.20 mm. long) coarsely sculptured, surface uneven, two small tubercles on middle of front. Prothorax a little wider than head, sides almost parallel, with a row of small tubercles along the margin, front angles porrect, hind angles obliquely truncate, median line deep and widened out behind into the basal emargination: surface uneven and minutely

tuberculate. Elytra (2.40 mm. long) slightly convex, parallel, the carinæ minutely tuberculate (more finely so than the margin of the prothorax), between sutural interval and first carina, as also between first and second carinæ, approximately three irregular rows of shallow punctures, larger towards margin, between second and third carinæ the punctures are larger and quite irregular.

Burma: Tharrawaddy (*G. Q. Corbett*), 1 ex. (type) in my collection. Calcutta: Eden Gardens, "at light" (*F. H. Gravely*), 1 ex., Indian Museum. The Calcutta ex. is fragmentary, but shows a good many of the characters: it is a little smaller than the type.

GNAPHION, gen. nov.

Ligula short, truncate, rather hollowed out at apex and joined to tooth of mentum by a fine ridge: *paraglossæ* rather longer than ligula, projecting obliquely outwards, narrow at apex but meeting at base above ligula, densely fringed with hairs in front. *Maxilla* straight, obtuse at apex, densely fringed with hairs on inner margin. *Palpi* thick: *maxillaries* glabrous, last joint obliquely truncate at apex, a little longer than preceding one: *labials* with last joint rounded at apex, slightly shorter than penultimate, which has half a dozen setæ on inner margin. *Mentum* moderately excised, with a wide, almost quadrate tooth, very obtusely angled at apex; finely carinate along median line, lobes rounded, slightly at sides, strongly at apex, extending beyond epilobes, rather concave beneath: *paragenæ* toothed and emarginate. *Mandibles* moderately curved, about as long as head, smooth, a ridge on upper surface from base to middle, each with an elongate irregular tooth occupying basal half of inner margin, left mandible with a smaller tooth near apex. *Labrum* very small, emarginate, with three setigerous pores. *Antennæ* moniliform, not reaching base of prothorax, joint 1 as long as next four joints together, 2 half as long again as 3, 4 a little shorter than the rest, which are approximately equal to 3. *Head* very large, nearly smooth, longer than prothorax, frontal impressions wide and shallow, sides deeply longitudinally impressed above eyes, genæ strongly dilated. *Prothorax* cyathiform, very wide and short, dentate at hind angles, and shortly produced in middle, so that the base appears to be bidentate on each side. *Elytra* short, flat on disk, shoulders carinate and dentate, interval 7 sharply carinate throughout, epipleuræ very wide at base. *Prosternum* not bordered; *metepisterna* very small, rather longer than wide;

ventral surface without transverse furrows. Front tibiæ with three teeth (including apical tooth) but without denticulations; mid-tibiæ with one spine. Type of genus: *Scaritoderus loyolæ*, Fairm.

Scaritoderus loyolæ, Fairm. Bull. Soc. Ent. Fr. 1883, p. 55.

Scaritoderus loyolæ, Andr. Ann. & Mag. N. II. (9) iii. 1919, p. 469.

Crepidopterus faurei, Maindr. Bull. Soc. Ent. Fr. 1904, p. 269, fig.

In his "Monographie des Scaritides" (Ann. Soc. Ent. Belg. xxii. 1879, p. 156) Chaudoir published the genus *Anomoderus* for *A. costato-granulatus*, a species from New Caledonia. Fauvel, finding the name of Chaudoir's genus was preoccupied, changed it to *Anomophenus* (Rev. d'Ent. i. 1882, p. 229); Atkinson in his Catalogue of Oriental Carabidæ (Journ. As. Soc. Beng. 1890, Suppl. i. p. 18) says that Fauvel's name is also preoccupied, but I cannot find that this is the case. When Fairmaire published his *Scaritoderus loyolæ*, he too had discovered that *Anomoderus* was a preoccupied name, and he suggested *Scaritoderus* to replace it; he pointed out some differences between the Indian and New Caledonian species, but left them in the same genus. As Fauvel's name is anterior to Fairmaire's, *Anomophenus* must stand for the New Caledonian species, and *Scaritoderus* becomes a synonym of it.

It is in these circumstances that I propose the new genus described above for the Indian species. It differs in some important points from *Anomophenus*: the tooth of the mentum is almost quadrate, a narrow slit on each side separating it from the lobes, the penultimate joint of the labial palpi is sex-setose, the first joint of the antennæ equal in length to the four succeeding ones, sides of prothorax dentate, base only slightly produced, &c.

LXI.—Fossil Arthropods in the British Museum.—II.

By T. D. A. COCKERELL, University of Colorado.

[Plate XVI.]

COLEOPTERA.

Carabidæ.

Carubites gardneri, sp. n. (Pl. XVI. fig. 10.)

Elytron 16·8 mm. long, 5·5 mm. wide; base truncate, apex narrowed, but obtuse at tip; the outer margin strongly concave just before the end. Outer margin with